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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Peter John Hastwell

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BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60610

EXAMINER

WANG, CHUN CHENG

ART UNIT

PAPER NUMBER

1763

MAIL DATE

DELIVERY MODE

10/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,175	Applicant(s) HASTWELL ET AL.	
	Examiner Chun-Cheng Wang	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 16-22 and 34-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 16-21 and 34-42 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment filed on 06/30/2010. New ground rejections applied for the second non-final Office action. Claims 36-42 are new. Claims 6-15 and 23-33 have been cancelled. Claims 1-5, 16-22 and 34-42 are now pending.
2. The objections and rejections not addressed below are deemed withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this section can be found in a prior Office Action.

Claim Objections

4. Claims 21 and 22 are objected to because of the following informalities: It is suggested to replace “nanometre” with “nanometer”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 2, 5, 17, 18, 34-36, 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation of “and

Art Unit: 1796

combinations thereof" in Claims 2, 5, 17, 18 and 34-36 failed to comply with the written description requirement.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Paolini, JR. et al. (US 20020131147, referenced as Paolini hereinafter).

Claim 1: Paolini discloses a two-phase electrophoretic medium comprises a continuous phase and a discontinuous phase. The discontinuous phase comprises a plurality of droplets, each of which comprises a suspending fluid and at least one particle disposed within the suspending fluid and capable of moving through the fluid upon application of an electric field to the electrophoretic medium. The continuous phase surrounds and encapsulates the discontinuous phase (Abstract). The suspending fluid (continuous phase) has a high volume resistivity [0074].

Claim 2: See paragraphs [0079]-[0081].

9. Claims 1, 2 and 39 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by McEntee et al. (US 20040050701, referenced as McEntee hereinafter).

Claim 1: McEntee discloses a composition comprises aerosols of electrically charged microdroplets suspended in a continuous immiscible liquid that is known as emulsion. The continuous phase being an insulator (high electrical volume resistivity), and the dispersed phase being ionized (electrically charged) [0097].

Claim 2: See paragraphs [0033] and [0041].

Claim 39: See paragraph [0097].

10. Claims 35 and 42 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by McEntee et al. (US 20040050701).

McEntee discloses a composition comprises aerosols of electrically charged microdroplets suspended in a continuous immiscible liquid that is known as emulsion. The continuous phase being an insulator (high electrical volume resistivity), and the dispersed phase being ionized (electrically charged) [0097]. The droplets can be any one or more of a variety of chemicals and/or biochemicals that are used for a variety of purposes. In particular, the material of the droplets may be a reagent, a chemical composition, and/or a biochemical composition used in the fabrication or manufacture of chemical or biological probes arrays. Further, the material droplet may be used in the subsequent processing of the chemical or biological probe arrays for at least one or more of analytical, diagnostic, and therapeutic purposes [0041].

Claim 42: See paragraph [0097].

11. Claims 1, 2 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Claim 1: Clancy discloses a composition comprising benzene (reads on continuous oil phase having high electrical volume resistivity), water and Triton X-400 (stearyl dimethyl benzyl ammonium chloride, an ionic surfactant) forming a water-in-oil emulsion (Examples 3 and 6). The ionic surfactant forms charged aqueous discontinuous phase.

Claim 2: Zinc oxide (catalyst) is used in the composition of Example 3. Clancy also disclose incorporation of dye in the composition (column 5, line 74 through column 6, line 18).

Claim 39: The benzene (continuous oil phase) having high electrical volume resistivity (electrically Insulative).

12. Claims 3-5, 16, 17, 19-21 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Claims 3 and 4: Clancy discloses a composition comprising benzene (reads on continuous oil phase having high electrical volume resistivity), water and Triton X-400 (reads on an ionic surfactant) forming a water-in-oil emulsion (Example 3). The ionic surfactant forms charged aqueous discontinuous phase. The Triton X-400 is stearyl dimethyl benzyl ammonium chloride that has one part that is compatible with the benzene and one part that is compatible with water. Clancy also discloses the photoconductive layer formed has substantial insulating character (column 1, lines 35-

Art Unit: 1796

54) (read on the selected surfactant will not significantly reduce the volume resistivity of the continuous phase).

Claim 5: Zinc oxide (read on catalyst) is used in the composition of Example 3. Clancy also disclose incorporation of dye in the composition (column 5, line 74 through column 6, line 18).

Claims 16 and 17: The emulsion of Example 6 also comprises Arlacel C (sorbitan sesquium oleate) (surfactant) and Triton X-400 (stearyl dimethyl benzyl ammonium chloride) (act also as charge control agent).

Claim 19: The emulsion is produced by mixing 200 g of ethyl cellulose-zinc oxide mixture (mixture of 650 ml (569.7 g by using density of 0.8765 g/ml) benzene, 41 g ethyl cellulose and 206 g zinc oxide; 158.8 ml of benzene in the 200 g mixture) with 55 g water. The volume percentages of the continuous phase (about 74 vol%) and discontinuous phase (about 25 vol%) are in the claimed range.

Claim 20: The voids size in the final film is controlled by the size of the water globules forming the discontinuous phase (column 10, lines 26-32). Void size range from between 0.5 micron and 10 micron are formed (column 10, lines 12-13).

Claim 21: See column 8, line 75.

Claim 37: The emulsion comprises 0.7 g surfactant (0.5 wt%) (Example 6).

Claim 38: The emulsion comprises 1.3 g charge control agent (0.93 wt%) (Example 6).

Claim 40: Benzene is used as continuous phase that has high electrical volume resistivity (electrically Insulative).

13. Claims 34 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Clancy discloses a composition comprising benzene (reads on continuous oil phase having high electrical volume resistivity), water and Triton X-400 (reads on electrically charged surfactant) forming a water-in-oil emulsion (Example 3). The ionic surfactant forms charged aqueous discontinuous phase. The Triton X-400 is stearyl dimethyl benzyl ammonium chloride (read on reactant of acid and base) that has one part that is compatible with the benzene and one part that is compatible with water. Zinc oxide (read on catalyst) is used in the composition of Example 3. Clancy also disclose incorporation of dye in the composition (column 5, line 74 through column 6, line 18). Clancy also discloses the photoconductive layer formed has substantial insulating character (column 1, lines 35-54) (read on the selected surfactant will not significantly reduce the volume resistivity of the continuous phase).

14. Claims 35 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Claim 35: Clancy discloses a composition comprising benzene (reads on continuous oil phase having high electrical volume resistivity), water and Triton X-400 (stearyl dimethyl benzyl ammonium chloride, reads on electrically charged surfactant) forming a water-in-oil emulsion (Example 3). The ionic surfactant forms charged aqueous discontinuous phase. The Triton X-400 is stearyl dimethyl benzyl ammonium chloride (read on reactant of acid and base) that has one part that is compatible with the

Art Unit: 1796

benzene and one part that is compatible with water. Zinc oxide (read on catalyst) is used in the composition of Example 3. Clancy also disclose incorporation of dye in the composition (column 5, line 74 through column 6, line 18).

Claim 42: Clancy further discloses photoconductive layer formed has substantial insulating character (column 1, lines 35-54).

Response to Arguments

15. Applicant's arguments filed 06/30/2010 have been fully considered but they are not persuasive.

16. Regarding rejection of Claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Applicant argued: "It may well be the case that the discontinuous phase of Clancy has neutral charge on the droplets ... not electrically charged".

Response: The stearyl dimethyl benzyl ammonium chloride (an ionic surfactant) in the emulsion forms charge on the surface of the aqueous droplet (ionized).

17. After further consideration: Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702). The ionic surfactant forms charged aqueous discontinuous phase. Clancy also discloses the photoconductive layer formed has substantial insulating character (column 1, lines 35-54) (read on the selected surfactant will not significantly reduce the volume resistivity of the continuous phase).

18. Regarding rejection of Claim 35 under 35 U.S.C. 102(b) as being anticipated by Clancy (US 3347702).

Applicant argued: "Clancy did not teach electrically charged discontinuous phase".

Response: The stearyl dimethyl benzyl ammonium chloride (an ionic surfactant) in the emulsion forms charge on the surface of the aqueous droplet (ionized).

Allowable Subject Matter

19. Claims 18 and 36 are allowable if rewritten to overcome the rejection under 35 U.S.C. 112, first paragraph and in independent form including all of the limitations of the base claim and any intervening claims.

20. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. The following is an examiner's statement of reasons for allowance:

The present claims are allowed over the closest references: Clancy (US 3347702).

Clancy discloses a composition comprising benzene (reads on continuous oil phase having high electrical volume resistivity), water and Triton X-400 (stearyl dimethyl benzyl ammonium chloride, an ionic surfactant) forming a water-in-oil emulsion (Examples 3 and 6). The ionic surfactant forms charged aqueous discontinuous phase.

However, Clancy does not teach or fairly suggest the claimed composition wherein the charge control agent is selected from the group consisting of metallic soaps wherein the metal includes: barium, calcium, magnesium, strontium, zinc, cadmium, aluminium, gallium, lead, chromium, manganese, iron, nickel, zirconium and cobalt and

Art Unit: 1796

the acid portion is provided by a carboxylic acid, a phospholipid, and combinations thereof or where the continuous phase is a fluoro-chemical the charge control agent includes a fluorine analogue of the compounds listed above; wherein the carboxylic acid is selected from the group consisting of caproic acid, octanoic (caprylic) acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linolic acid, erucic acid, tallitic acid, resinic acid, naphthenic acid, succinic acid.

Clancy does not teach or fairly suggest the claimed composition wherein the emulsion is a micro-emulsion with a discontinuous phase having a droplet size of from about 200 nanometers down to 1 nanometers.

There is no prior art of record, alone or in combination teach or fairly suggest the claimed Composition.

22. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Cheng Wang whose telephone number is (571)270-5459. The examiner can normally be reached on Monday to Friday w/alternate Friday off.

Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

/Chun-Cheng Wang/
Examiner, Art Unit 1796

/CCW/